



Essay

Regenerative Futures: Eight Principles for Thinking and Practice

Kimberly Camrass

School of Law and Society, University of the Sunshine Coast, Sippy Downs Drive, Sippy Downs Queensland, Australia

Abstract

This essay draws from extensive regenerative futures research to provide eight principles for thinking and practice. Existing regenerative fields, including regenerative development, differ from prevailing approaches to sustainability in that they move beyond harm mitigation as an aspirational objective, instead seeking to achieve net positive benefits for integrated natural and social systems. Futures and strategic foresight methods can deepen regenerative approaches both conceptually and in practice. This article draws from a range of qualitative research methods that have explored these regenerative futures concepts, including Causal Layered Analysis, case studies and semi-structured interviews. It distils this research into eight guiding principles that provide a framework for transformation whilst also recognising that regenerative futures are context specific and unique to place.

Keywords

Regeneration, Futures, Causal Layered Analysis, Metaphors, Transformation

Introduction

The concept of regeneration is inherently layered, complex and evolving. It can have spiritual, ecological and even medical connotations. Regardless of context however, regeneration evokes hopeful themes of renewal, revival, rebirth and restoration. Regeneration involves more than doing no harm, it is an active, positive and continuous process. With the increasing urgency of global challenges including climate change, biodiversity loss and excessive resource use, considering the concept of regenerative futures is particularly timely. Over the last few years, my research has explored this idea, particularly considering regenerative futures as a framework to facilitate positive, thriving, urban communities that positively contribute to the broader social and natural systems of which they are part.

As a kind of denouement, this essay draws from the various strands of my research to arrive at a set of regenerative futures principles for both thinking and practice. It is an attempt to “unknot” and distil the complex into a set of guiding markers and prompts, rather than a desire to impose strict frameworks or pre-defined pathways. As Bussey (2022) describes, maps are tools for meaning making, they should be treated playfully rather than followed implicitly. Similarly, as we increasingly understand the inherent issues in attempting to impose mechanistic “solutions” to sustainability challenges, it is critical that emerging concepts around regenerative futures do not fall into similar patterns. The eight core principles provided in this essay should be viewed as a springboard for conceptually deepening and practically applying regenerative concepts using futures thinking and methods.

Background

Several existing fields provide frameworks for applying regenerative principles, most frequently within the built environment. Regenerative Design and Development (Reed, 2007; Benne & Mang, 2015; Du Plessis, 2012) in

* Corresponding author.

E-mail addresses: Kimberly.camrass@research.usc.edu.au

particularly contrast with prevailing approaches to sustainable development. Whilst the latter has been critical in addressing environmental and social issues over the last three decades, regenerative fields contend that more is needed to not only avoid future destruction but to also address the previously acquired ecological debt resultant from human activity, as illustrated by the work of regenerative practitioner, Bill Reed in figure 1:

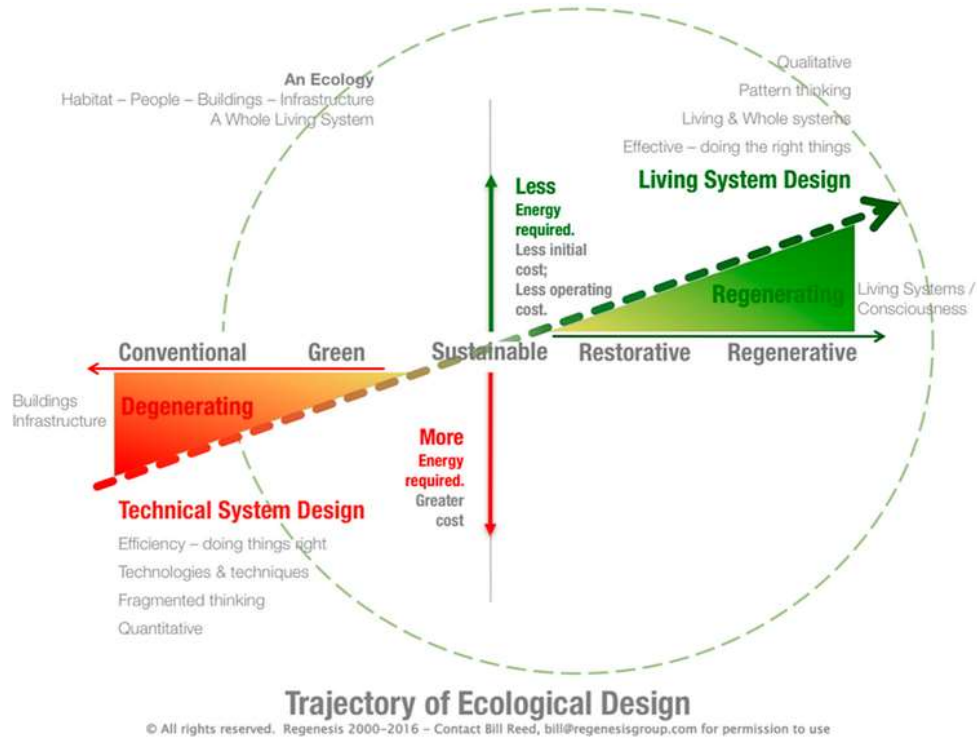


Fig. 1: Conventional to Regenerative Practice (Reed, 2007)

Sustainable development is typically defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland, 1987). This often manifests legislation, policies and programs that aim to increase efficiency and reduce harm. Often such approaches are imposed in a top-down manner that doesn’t adequately cater for local context or the visions particular communities hold for desired futures (Du Plessis, 2012; Du Plessis and Cole, 2011; Camrass, 2022). Regenerative approaches, conversely are underpinned by an ecological worldview and utilise living and whole systems theory to underpin initiatives with the goal of creating co-evolution between human and natural systems (Camrass, 2022; Reed, 2007; Robinson and Cole, 2015). The key features of regenerative approaches are summarised below in table 1 (Camrass, 2020).

Table 1: Key features of regenerative approaches

Goals	Offer net positive, enduring contribution and value Build social and natural capital Achieve co-evolutionary and patterned relationships between systems
Roots and informing background	Ecological science Living systems theory Whole systems theory
Views of reality	Set of ecological “truths” about the world that determine the meaning of sustainability Web of life categorised by nested systems and energy flows
Views of time	Considers social and ecological factors across temporal scales
Features	Collaborative, conscious process to discover social-ecological story of place Embraces breadth of knowledge sources Primacy of process over outcomes
Measurement	Redress of previously accumulated ecological debt Focus on impact rather than output Emerging discussion on the definition of “net positive” and what this means for measurement and evaluation Emphasis on process rather than performance outcomes

It is not the purpose of this essay to add further to the comparison in the literature between sustainable development and regenerative approaches (Robinson and Cole, 2015; Reed, 2007; Du Plessis, 2012). Rather it aims to distil the key principles that have arisen from using futures thinking and methods to explore regenerative concepts.

The central thread to my research has been the idea that futures thinking and practice can both deepen our understanding of regeneration and help to facilitate the application of regenerative initiatives and practices within communities (in a range of ways, including those outlined in table 2) (Camrass, 2020; Camrass, 2022). Conceptually, this included the use of tools including Causal Layered Analysis (CLA) (Inayatullah, 2008) to deepen ideas around reality and time when it comes to regenerative concepts and to examine and compare Sustainable Development and Regenerative Design and development in a layered manner. Practically, this involved layered examination of two urban case studies with regenerative aspirations.

Throughout these processes, outlined further in the methodology section of this essay, I have continued to develop, refine and experiment with a set of Regenerative Futures Principles, the discussion of which is the central purpose of this essay. In her book, *Hospicing Modernity* (2021), Vanessa Machado de Oliveira, discusses the idea of indexing the world into words and the desire to categorise the totality of the world into boxes that can be labelled, stacked and presented as part of a perfect power of knowledge. Acknowledging this as a human tendency, whilst also trying to overcome it, has been important throughout the development of these principles. There is of course a rich history in futures that uses principles and pillars, rather than prescriptive methodologies, as guiding frameworks. Indeed, it is a key characteristic of this field. Bussey (2014:1) describes futures principles as “coordinates for the practitioner.” He discusses Richard Slaughter’s noting of the future as a principle for present action (Slaughter, 1996) explaining how this concept links present action with the conceptual space of the future. Of course, Sohail Inayatullah’s Six Pillars framework (2008), provide both the theory and methods to empower a collective processes of envisaging and working towards desired futures. Critically, these pillars involve exploration and questioning that is context specific. Rather than imposing pathways of action, futures pillars and principles guide and enable.

Methodology

Whilst there is significant literature on the foundational ecological worldviews underpinning regenerative design and development (Du Plessis, 2012; Benne & Mang, 2015; Clegg, 2012; Bayulken and Huisingsh, 2015), few examples explore the worldviews held at a personal or community level by those working on or living in

communities with regenerative aspirations. Similarly, understanding the metaphors that underpin these aspirations or images of the future is fundamental and not thoroughly explored in literature. Indeed, although the theoretical underpinnings of regenerative approaches are sound and well-documented, tools to operationalise them, particularly in existing communities, are still required (Camrass, 2022).

The development of the eight principles in this essay utilised a range of approaches as summarised in table 2.

Table 2: Methodology

1. Regenerative Futures	A comparison of regenerative approaches and sustainable development approaches. A consideration of how futures thinking and practice may inform regenerative approaches, particularly with regards to concepts of reality and time (Camrass, 2020).
2. Urban Regenerative Practice	A systematic literature review of regenerative thinking and practice in urban settings to identify current barriers and enablers and implications for future research (Camrass, 2022).
3. Regenerative Urbanism – A Causal Layered Analysis	Use of CLA at a conceptual level to analyse both traditional and regenerative fields and provide greater insight into the beliefs, values, epistemologies and assumptions that inform thinking and practice. (Camrass, 2022)
4. Regenerative Case Studies	Exploration of two Australian urban precincts with regenerative aspirations. This included semi-structured interviews with both professionals and community members.
5. Causal Layered Analysis	Use of CLA to analyse interview outputs and consider regenerative thinking and practice at the case study sites across litany, systems, worldview and myth/metaphor layers
6. Thematic Analysis	Use of thematic analysis to identify key enablers of regenerative practice across various categories, including regulation, engagement, cultural initiatives and incentives
7. Synthesis	Two workshops with experienced CLA practitioners utilised to synthesise and deepen the research outputs.

Much of the existing literature includes regenerative case studies from either regional areas or Greenfield sites. Stage 2 of the process outlined in table 2, therefore, involved a systematic literature review of publications on urban regenerative thinking and practice, including across urban development stages and sectors. Results from this paper indicated precincts as the optimum scale for regenerative intervention, moving beyond the regenerative design of individual buildings to consider a range of interrelating systems. As such, the regenerative case studies chosen (stage 4) included two precincts in inner Sydney, Australia. Central Park and Green Square are both mix-used precinct developments that occurred in existing communities and amongst buildings and spaces with a range of historical uses and purposes. Desktop analysis and semi-structured interviews with both professionals and community members involved in these precincts provided extensive data and perspectives on the goals, processes, barriers and enablers that faced these communities as they worked towards regenerative environmental and social objectives.

Regenerative Futures – Eight Principles for Thinking and Practice

These eight principles are designed to provide conceptual and practical guidance, particularly for groups of people or communities to envisage and work towards regenerative outcomes. Through the incorporation of futures perspectives and methods, it is hoped that they will also remain open and flexible enough to allow for the uniqueness of each community and place. The eight principles are summarised in figure 2. Further detail on each, including insights from the two case study sites, is provided below.

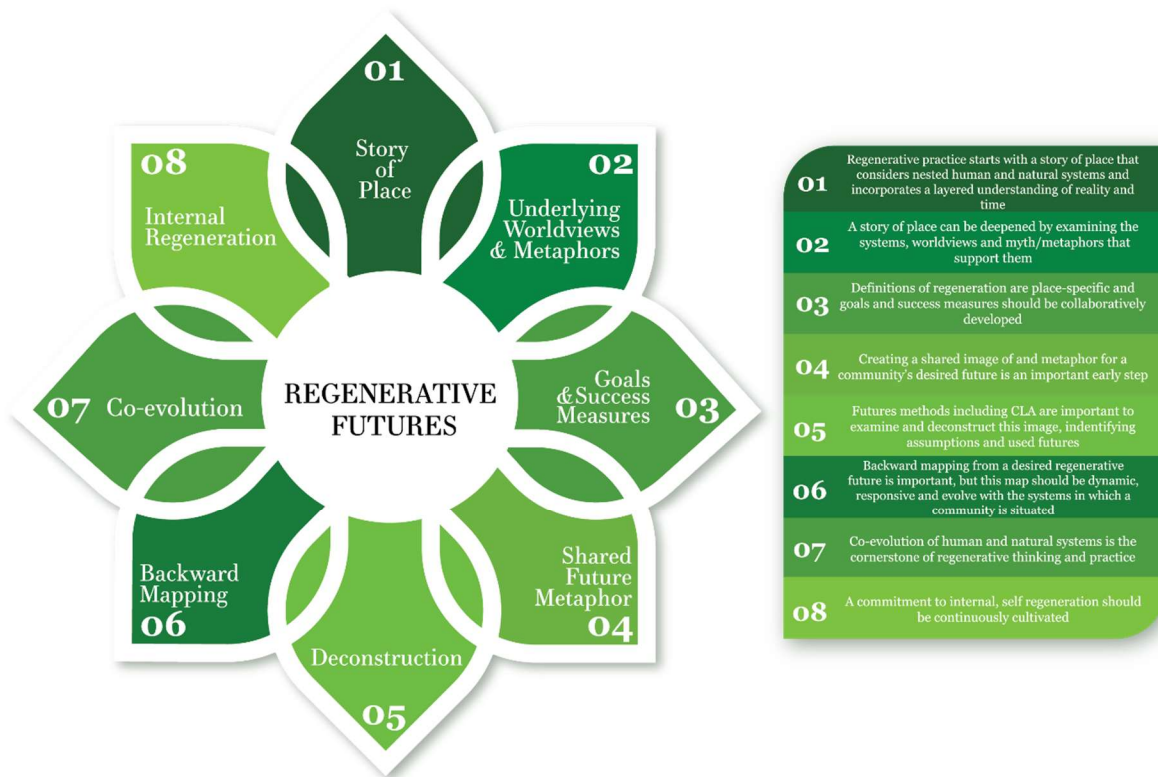


Fig. 2: Eight Regenerative Futures Principles

Principle 1: Regenerative practice starts with a story of place that considers nested human and natural systems and incorporates a layered understanding of reality and time.

Principle 2: A story of place can be deepened by examining the systems, worldviews and myth/metaphors that support them.

Developing a story of place from which regenerative aspirations can be identified and pursued is central to existing regenerative fields, including regenerative design and regenerative development (Reed, 2007; Benne & Mang, 2015). This story incorporates the human and non-human, drawing not only from the present but also from the past in order to frame thinking around what is truly regenerative for that place. In this way a sense of deep listening is required, an ability to incorporate multiple perspectives to truly understand the unique story of a place. Moving beyond an anthropocentric bias to consider the nested natural and social systems in which a community is situated is also critical, helping to avoid a reductionist approach to any regenerative practice and considering their impacts in a broader context. Bringing a futures perspective to the development of this story can help to deepen it even further, in particular when it comes to concepts of reality and time. As Slaughter (1998) describes, futures thinking and practice can help us to grasp and respond to our historical predicament. Through the use of futures tools, including the Futures Triangle (Inayatullah, 2008), both individuals and communities can deeply examine the weight of the past, the push of the present and the pull of the future to consider what is in fact regenerative in the context of that place. Indeed, this process can facilitate a deeper examination and reflection of the choices, patterns and memories of the past (Camrass, 2020) to position current action in a broader temporal context.

The development of a story of place that incorporates a range of perspectives and data sources is indeed a critical starting point for any regenerative work. Often and understandably, however, such stories are reflective only of the litany and systems levels of CLA (Inayatullah, 2008). There is rarely an examination of the underpinning worldviews nor the myth/metaphors that support these stories. Throughout my own doctoral research, I utilised CLA to analyse the outputs of semi-structured interviews with both professionals and community members in urban precincts that had regenerative aspirations. Moving down the levels of analysis to truly examine the worldviews and metaphors that underpinned both their perspectives and their practice provided considerable depth of insight. Sharing this analysis with the interviewees to then facilitate the process of moving back up the layers of CLA provided a framework for particularly rich conversations, uncovering what was previously often unconscious or at least unacknowledged.

I believe using CLA to deep the story of place at the very start of any process in which a group of people are working towards regenerative aspirations is critical. Not only does it provide additional depth to a story (or poem or song) of place, it uncovers assumptions to open up new possibilities for imagining what is possible. In this way, principles 1 and 2 are the foundations for an ongoing process of anticipatory action learning (Inayatullah, 2006; Ramos, 2006). It is in alignment with Ramos’ description of an action research approach to futures work, as an “exercise in agency – in consciously shaping the futures we want to live in” (Ramos, 2006: 651). In the case of Green Square, the concept of “deep listening” emerged as critical in the development of this story and as part of the collective anticipatory action learning process:

“Listen, not only to the voices of the people but also to what the landscape is telling you. Not only the present but the past, the history of that place.” (Interviewee – Architect)

There is considerable potential for CLA to facilitate this process of deep listening, moving beyond environmental scanning to truly understand people and place across temporal scales. In this way, futures methods can add richness the stories we tell ourselves about place, providing practical tools for deep listening, the questioning of assumptions and the inclusion of human and non-human perspectives.

Principle 3: Definitions of regeneration are place specific and goals and success measures should be collaboratively developed.

Prevailing, mechanistic approaches to sustainability frequently attempt to impose “solutions” on communities without an appreciation for the uniqueness of the that place (Camrass, 2020). This idea that the answer to complex ecological and environmental problems is “out there” is extremely detrimental to the identification and pursuit of actions that genuinely support the co-evolution of communities and the natural systems of which they are part. When we examine mechanistic sustainability approaches across the layers of CLA (table 3), we can understand this tendency to impose more generic measures success or progress across contexts and communities (Camrass, 2022):

Table 3: CLA of Mechanistic Sustainability Approaches

Litany	Considers environmental impact of discrete projects and places through an analysis of impact, including resource consumption
Systems	Utilises aggregation methods and quantitative data to understand environmental footprint
Worldview	Reductionist, addressing the parts will improve the whole
Myth/Metaphor	The clock

Of course the data sets that inform the above remain relevant. Tracking the waste generation or electricity conception of a site is important. Critically, however, this type of information doesn’t tell the whole story and needs to be considered within a broader context. Regenerative design and development have been fundamental to the movement from this largely reductionist framework for developing meaningful change indicators. These fields

have noted that innovative evaluation frameworks are required to demonstrate the anticipated benefits of regenerative initiatives, particularly as these often materialise over the long term (Cole et al., 2013; Camrass, 2022; Conte & Monno, 2016). Considering regenerative approaches across the layers of CLA (table 4) has implications for generating measures of success (Camrass, 2022). The metaphor of a web, for example, frames thinking around “success” to consider broader systemic impacts. Similarly, the consideration of a greater range of contextual factors will naturally impact the breadth and nature of success measures.

Table 4: CLA of Regenerative Approaches

Litany	Net-positive approaches to address accrued ecological and social debt
Systems	Considers contextual factors that influence a place across temporal, social cultural and ecological dimensions
Worldview	Ecological, living systems, consideration of the whole
Myth/Metaphor	The web

CLA can also be used to deepen both the story of place (Principle 2) and the images of a desired future (Principle 4) for a community. In this way futures thinking and practice can further facilitate the development of rich, layered metrics. Additionally, utilising the Six Pillars (Inayatullah, 2008) to shape engagement with communities around their futures can support the development of collaboratively developed, place specific regenerative indicators. This principle builds upon the process of anticipatory action learning, drawing from the community members’ own epistemological categories in an empowering and democratic manner (Inayatullah, 2006; Stevenson, 2002).

Principle 4: Creating a shared image of and metaphor for a community’s desired future is an important early step

Principle 5: Futures methods including CLA are important to examine and deconstruct this image, identifying assumptions and used futures

As in Principles 1 and 2 with the development of a story of place, the use of futures methods to both develop and deepen an image of a community’s desired future provides a real opportunity. Futures thinking and practice can particularly inform regenerative fields by providing the means to identify what is in fact desired, facilitating the process by which communities can identify and consider possible, probable and preferred futures (Inayatullah, 2013). Incorporating the foundational futures concepts (Inayatullah, 2008) into the process of generating a regenerative image of the future is critical, assisting both individuals and communities to identify used, disowned and alternative futures and to achieve alignment through active, empowering and effective models of social change.

Utilising CLA to deepen understandings of the any image of a regenerative future is also particularly helpful, allowing communities to identify its underpinning metaphor. By being expressed in a metaphorical sense, ideas around the future can be more easily communicated and accessed, helping to ensure greater breadth of community participation in any regenerative endeavours (Camrass, 2020). Perhaps most importantly, however, myths and metaphors /metaphors require the telling of a new story, “rewiring the brain and building new memories and the personal and collective body” (Inayatullah, 2008:12). The use of metaphors helps us to step outside the constraints and limiting beliefs that compounded the problems that regenerative initiatives are seeking to solve. They provide the map as a playful tool for meaning making that Bussey (2022) describes. In the case of the two primary case studies utilised in my research, 4 key metaphors for a regenerative future emerged as detailed in table 5, along with a summary quotes from interviewees. These metaphors can facilitate powerful ongoing conversations to help facilitate the co-evolution of human and natural systems, the corner stone of regenerative practice.

Table 5: Four case study metaphors

A Spider’s Web	<p>“You have to view the place as part of a broader system, as part of a web. It’s interconnected, it’s growing, but there are also parts that will break down”</p> <p>“A regenerative community is strong, but also needs to be flexible, there are places that need to be left untouched.”</p>
An Elemental Balance	<p>“When we think about the future of this place, we look to the elements of nature. They provide guidance. I mean a garden with the earth and the water and the air is an example of that. It’s a metaphor for how we transform. Things will age but they will become more beautiful.”</p> <p>“It is important we drew from what the elements were telling us. That we did that to identify the actions we needed to take to keep that beautiful balance.”</p>
The Heart and Lungs of the City	<p>“We had to listen to the heartbeat of the place that was already part of that land.”</p> <p>“We used art as an experiential way of helping people to connect to the place. We came to it from a spatial, heartfelt space as a different way of knowing and connecting”</p> <p>“Regeneration here is about creating spaces that breath, both for the people and for nature.”</p>
An Organic Conversation	<p>“The regenerative process is like tending an open field. It occurs through conversations with community, through conversations with nature and through conversations with the history of that place, drawing from artefacts and from the land itself”</p> <p>“The built environment can also be part of the conversation. How can we design it as an invitation for the community to engage with?”</p>

Principle 6: Backward mapping from a desired regenerative future is important, but his map should by dynamic, responsive and evolve with the systems in which a community is situated.

Vanessa Machado De Oliveira (2021) writes of four denials societies face; the denial of systemic complicity in harm, the denial of the limits of the planet, the denial of entanglement and the denial of the magnitude and complexity of problems. We must both individually and collectively acknowledge our role in perpetuating pressing global problems, including climate change and our tendency to both consciously and unconsciously push against the ecological limits of the planet. Maintaining a consistent understanding of our own entanglement in these complex, systemic issues is of course critical. Communities need to remain cognisant of these themes when mapping backwards from a desired, regenerative future. Once again, this map should also be viewed as a guide, a set of coordinates, rather than a rigid action plan. In some ways, it is a theory of change, but one that needs to be dynamic and responsive to the larger systems in which it is playing out.

There are several futures methods that can be used to help develop and continually evolve this map, most notable backcasting (Boulding, 1995; Bibri, 2018). Critically, however a community’s desired, regenerative future, should remain an “emergent property of the process of engaging” (Robinson, 2003: 839). That is to say, what is regenerative may evolve as broader, systemic changes occur, or communities evolve in different ways. The underpinning metaphor utilised by communities to describe their image of a regenerative future must be continually revisited to ensure that it is not stifling, rather than facilitating positive, transformative change. Being aware of this concept of “metaphoric capture” is important as the co-evolutionary process of regeneration is pursued. Nevertheless, backward mapping from a regenerative future through a guided process, provides an opportunity to both develop steps to transformation, whilst engaging and empowering the members of a community. As Hirvonen-Kantola et al. describe (2015), an entire city or precinct can be part of an ongoing anticipatory action learning process, promoting change and innovation. Ensuring the principles of dynamism and responsiveness remain front of mind, is critical to this process.

Principle 7: Co-evolution of human and natural systems is the cornerstone of regenerative thinking and practice.

Most prevailing approaches are categorised by an anthropocentric perspective that places human objectives above those of the natural world of which they are part. Regenerative approaches, in contrast, aim to shift this paradigm to instead prioritise a sense of interactive adaptability and co-evolution between human and natural systems. It is important that perfect is not the enemy of good, however. Many sustainable development frameworks, for example, can be useful bridges towards a regenerative future. It is merely that harm mitigation and resource efficiency should not be seen as aspiration goals, rather as building blocks to the pursuit of a future that is characterised by the co-evolution of human and natural systems.

This concept does not only involve the idea that human purpose and action can be informed by the natural world, although of course this is important. Much of regenerative thinking and practice is informed by an ecological worldview, with several authors (Du Plessis, 2012; Benne & Mnag, 2015) using the metaphor of a living and connected web as a visual representation of this. The spider's web was also one of the four metaphors that emerged through the case studies examined in my own research. Indeed this image is useful in reminding us of the idea that natural and human systems are themselves comprised of interconnected, interdependent and reinforcing relationships (Camrass, 2020). An action in one area of the web can have ripple effects more broadly. Extending this metaphor further, we can consider how other concepts of a web can demonstrate the nested nature of human and natural systems. Webs are strong yet flexible, they have points of connection but also gaps and space for other things to emerge, they grow, breakdown and repair. These themes help remind us of our own systemic entanglement (Machado do Oliveira, 2021) but also provide purpose and hope, reminding us that our choices can have positive, far-reaching consequences.

Principle 8: A commitment to internal, self-regeneration should be continuously cultivated.

Perhaps the most important principle informing regenerative futures is that which concerns the self. As Bussey (2014) explains, it is important that when undertaking futures work, which he terms as paradoxically personal and also engaging, we examine the concepts that shape us and the values that inform us. Inayatullah (2008) discusses the concept of internal alignment and the need for our inner maps to reflect the external. We should acknowledge what he terms as the reinforcing loop between our internal and external realities. This exchange is critical and, without deep reflection, we may not even be aware of the ways in which both the internal and the external influence one another. Much like the idea of the co-evolution of human and natural systems that is a cornerstone of regenerative thinking and practice, our own internal regeneration is a continuous, iterative and ongoing.

In the context of regenerative futures, cultivating reflective practices and even rituals that scaffold these internal processes is important. Examining our own story of self (and the systems, worldviews and metaphors that underpin it) is part of this process. This helps us to move away from trying to solve complex social and ecological problems from within the same mental models and frameworks that have created them. Understanding that this may involve destruction and letting go is key, after all, regeneration is also these things too. Regenerative futures practitioner, Daniel Christian Wahl writes that “we are all activists, activating one story another through the power of our attention” (Wahl, 2016: 45). Committing to an ongoing re-examination of our internal thoughts and narratives is critically important in order to ensure alignment between the internal and the external. Importantly, however, this process is ongoing, requiring an embrace of constant change and a letting go of the mirage of certainty and control (Wahl, 2016)

Conclusion

The principles in this essay are designed to serve as a provocation for ongoing conversations and research around regenerative futures, whilst also demonstrating the additional richness that futures can provide to existing regenerative approaches. They are designed to provide both a sense of hope and a springboard for agency and action. It is both of these which are required if we are to spark the individual and collective transformation required to not only prevent ongoing harm but to create regenerative, thriving futures for all.

References

- Bayulken, B., & Huisingh, D. (2015). A literature review of historical trends and emerging theoretical approaches for developing sustainable cities (part 1). *Journal of Cleaner Production*, 109, 11–24. <https://doi.org/10.1016/j.jclepro.2014.12.100>
- Benne, B. and Mang, P. (2015). Working regeneratively across scales – insights from nature applied to the built environment. *Journal of Cleaner Production*, 109, 42-52. <https://doi.org/10.1016/j.jclepro.2015.02.037>
- Bibri, S. (2018). Backcasting in futures studies: A synthesized scholarly and planning approach to strategic smart sustainable city development. *European Journal of Futures Research*, 6(1), 1–27. <https://doi.org/10.1186/s40309-018-0142-z>
- Boulding, E. and Boulding, K. (1995), *The Future: Images and Processes*. Sage.
- Brundtland, G. (1987). Report of the World Commission on Environment and Development: Our Common Future. United Nations General Assembly document A/42/427.
- Bussey, M. (2014). Concepts and effects: Ordering and practice in foresight. *Foresight*, 16(1), 1-16. <https://doi.org/10.1108/FS-04-2013-0017>
- Bussey, M. (2022). CLA of the gods. *Journal of Futures Studies Perspectives*. Published online: <https://jfsdigital.org/2022/04/21/cla-of-the-gods/#post-14353-footnote-1>
- Camrass, K. (2020). Regenerative futures. *Foresight*, 22(4), 401-415. <https://doi.org/10.1108/FS-08-2019-0079>
- Camrass, K. (2022). Urban regenerative thinking and practice: a systematic literature review. *Building Research & Information*, 50(3), 339-350. <https://doi.org/10.1080/09613218.2021.1922266>
- Camrass, K. (2022). Regenerative Urbanism: a causal layered analysis. *Foresight*, ahead of print. <https://doi.org/10.1108/FS-11-2021-0227>
- Clegg, P. (2012). A practitioner’s view of the ‘regenerative paradigm’. *Building Research and Information*, 40(3), 365–368. <https://doi.org/10.1080/09613218.2012.663557>
- Cole, R., Oliver, A., & Robinson, J. (2013). Regenerative design, socio-ecological systems and co-evolution. *Building Research and Information*, 41(2), 237–247. <https://doi.org/10.1080/09613218.2013.747130>
- Conte, E., & Monno, V. (2016). The regenerative approach to model an integrated urban-building evaluation method. *International Journal of Sustainable Built Environment*, 5(1), 12–22. <https://doi.org/10.1016/j.ijbe.2016.03.005>
- Du Plessis, C. (2012). Towards a regenerative paradigm for the built environment. *Building Research & Information*, 40 (1), 7-22. <https://doi.org/10.1080/09613218.2012.628548>
- Du Plessis, C. and Cole, R. (2011). Motivating change: Shifting the paradigm. *Building Research and Information*, 39 (5), 436-449. <https://doi.org/10.1080/09613218.2011.582697>
- Hirvonen-Kantolaa, S. Ahokangasb, P. Iivarib, M. Heikkiläb, M. & Hentiläa, H. Urban development practices as anticipatory action learning: case Arctic smart city living laboratory. *Procedia Economics and Finance*, 21, 337-345. [https://doi.org/10.1016/S2212-5671\(15\)00185-9](https://doi.org/10.1016/S2212-5671(15)00185-9)
- Inayatullah, S. (2006). Anticipatory action learning: Theory and Practice. *Futures*, 38, 656-666. <https://doi.org/10.1016/j.futures.2005.10.003>
- Inayatullah, S. (2008). Six pillars: Futures thinking for transforming. *Foresight*, 10(1), 4-21. <https://doi.org/10.1108/14636680810855991>
- Inayatullah, S. (2013). Futures studies: theories and methods, in Al-Fodhan, N. (Ed.), *There’s a Future: Visions for a Better World*. BBVA.
- Machado De Oliveira, V. (2021). *Hospicing modernity: Facing humanity’s wrongs and the implications for social activism*. North Atlantic Books.
- Reed, B. (2007). Shifting from ‘sustainability’ to regeneration. *Building Research & Information*, 35(6), 674-690. <https://doi.org/10.1080/09613210701475753>
- Robinson, J. (2003). Future subjunctive: Backcasting as social learning. *Futures*, 35(8), 839-856. [https://doi.org/10.1016/S0016-3287\(03\)00039-9](https://doi.org/10.1016/S0016-3287(03)00039-9)
- Robinson, J. and Cole, R.J. (2015). Theoretical underpinnings of regenerative sustainability. *Building Research &*

- Information, 43(2), 133-143. <https://doi.org/10.1080/09613218.2014.979082>
- Slaughter, R. (1996). Futures studies: from individual to social capacity. *The Journal of Policy, Planning and Futures Studies*, 28(8), 751-762. [https://doi.org/10.1016/0016-3287\(96\)00009-2](https://doi.org/10.1016/0016-3287(96)00009-2).
- Stevenson, T. (2002). Anticipatory action learning: conversations about the future. *Futures*, 34, 417-425. [https://doi.org/10.1016/S0016-3287\(01\)00068-4](https://doi.org/10.1016/S0016-3287(01)00068-4)
- Wahl, D.C. (2016). *Activism revisited: personal reflections on trying to make a difference*. Rutledge Fellowship for Intentional Communities, 2016-10-01, 43. Wahl, D.C (2016). *Designing Regenerative Cultures*. Triarchy Press.